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# LAW AND THE DIGNITY OF NATURE: FOUNDATIONS OF ENVIRONMENTAL LAW

*Kenneth A. Manaster\**

*American legal institutions have failed to recognize fully the interaction between the dignity of nature and the dignity of human life. In this Article, Professor Manaster argues for an increased awareness of three essential elements of life on Earth: the interdependence of environmental forces and all forms of life, the finitude of natural resources, and the limits of human knowledge. Professor Manaster concludes that recognition of these facts by lawyers and legal institutions can lead to the development of more sophisticated tools for environmental decisionmaking.*

## I. INTRODUCTION

The thesis of this Article is that law cannot promote the dignity of human life unless it also fosters and expresses the dignity of nature. If we are to have legal systems which will respect human dignity, we must focus upon the broader question of how law can work in harmony with, rather than in opposition to, the dignity of nature. To achieve this, legal systems must appreciate three facts of life on Earth: (1) the unity of nature; (2) the finitude of this planet; and (3) the limits of human knowledge. These three facts are different aspects of the mystery of life itself. This Article will explore the implications of each of these aspects for ways in which the American legal system can either respect or insult the dignity of nature, and, thus, the ultimate dignity of human life.

The development of the American legal system has been founded upon a denial of the unity of nature and humanity, a denial of the finitude of the planet and its resources, and a denial of the limits of human knowledge about the processes of life on Earth. As a result, we now find ourselves struggling with serious problems of environmental degradation, shortages of energy resources, scarcities of raw materials, and extinction of many spec-

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ies of our fellow creatures. Those who work in law have been operating on outmoded, even fictitious, notions which sooner or later will help to create disaster for this planet and all its residents.

Ironically, just as we begin to conquer some of the ancient, life-threatening perils of nature, such as disease and hunger, we find that we face new threats to our survival, at least to our survival as we have known it. Of course, the anomaly existing on a world scale is that while technologically advanced nations are beginning to struggle with these new and apparently self-created threats, many other "undeveloped" portions of the world continue to fight age-old battles. Realizing the magnitude of these problems, one is tempted to give up in despair. Perhaps the developed world will be destroyed in its own pollution and waste, while the underdeveloped countries will totter on the brink of extinction from starvation, disease, and internal disorder. Yet, there are indications of a new awareness and resolve in this country and elsewhere that rekindle hope.

To some extent, law is an expression of a society's values and policy preferences. Beyond this, however, the power and influence of law make it an important arena for the clarification and development of new trends in human values. Thus, realization of the facts of life will lead to beneficial changes not only in our actions but also in our values. It is my hope that these thoughts will help illustrate the ways in which the legal system can become a more positive force in fostering and expressing the dignity of nature.

A few broad definitions are needed at the outset. By "nature," I refer to the entire physical context in which human beings find themselves, or what is generally called "the environment." "Human dignity" refers to an individual's sense of wholeness, satisfaction, and well-being. This can only occur when one achieves a balance between a sense of belonging to a broader community and a sense of one's own identity—a realization of the power to make effective choices about life.<sup>1</sup> These feelings can only exist in people who live in conditions of basic social stability, material prosperity, and physical health. "Legal systems" refers to the entire complex of official statements in a society which seeks to regulate the activities of people, and institutions such as

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1. See G. MANASTER, *ADOLESCENT DEVELOPMENT AND THE LIFE TASKS* 1277 (1977), which states: "The point . . . is one of fit and belonging. Fitting for yourself to be yourself, and fitting in with others, belonging with others."

courts, administrative agencies, and legislative assemblies. The discussion will focus upon the American legal system since the United States embodies more of the problems addressed here than does any other nation.<sup>2</sup> Further discussion of the dignity of nature will be deferred at this point because one of the major objectives of this Article is to present some fundamental concepts of this topic.

## II. THE UNITY OF NATURE

One of the most frequently expressed themes of the environmental movement over the last decade has been the interdependence of all life. In popular magazines, scholarly journals, high school students' essays and noted ecologists' books, the point has been made that it is time for humanity to realize it is a part of nature and that all life forms are intertwined.<sup>3</sup> Seldom, however, are these statements found in legal literature.<sup>4</sup> Some students of Western thought ascribe the current environmental crisis to the Judaeo-Christian tenet of subjugating nature to human needs.<sup>5</sup> In contrast, it has been suggested that Eastern thought has a more reverential attitude toward the unity of life.<sup>6</sup> I suspect that neither religious orientation is unambiguous about man's relationship to nature,<sup>7</sup> but Eastern thought is more sophisticated than

2. "Also, American society epitomizes the modern way of life in most respects, and if it can be shown that modernity will no longer work here, then it can be presumed to be in trouble elsewhere." W. OPHULS, *ECOLOGY AND THE POLITICS OF SCARCITY* 3 (1977) [hereinafter cited as OPHULS].

3. See, e.g., B. COMMONER, *THE CLOSING CIRCLE* 11, 29-35 (1971); MURDOCH, *Ecosystem Science as a Point of Synthesis*, in *ENVIRONMENT: RESOURCES, POLLUTION AND BUECHNER*, reprinted in *AMERICA'S CHANGING ENVIRONMENT* 20, 23-24 (R. Revell & H. Landsberg eds. 1970).

4. *But see* C. STONE, *SHOULD TREES HAVE STANDING?* 42-54 (1974) [hereinafter cited as STONE]; Metzger, *Private Property and Environmental Sanity*, 5 *ECOLOGY L.Q.* 793, 797-99 (1976) [hereinafter cited as Metzger]; H. & M. Sprout, *The Ecological Viewpoint—and Others*, in 4 *THE FUTURE OF THE INTERNATIONAL LEGAL ORDER: THE STRUCTURE OF THE INTERNATIONAL ENVIRONMENT* 569 (C. Black & R. Falk eds. 1972) [hereinafter cited as Black & Falk]; Young, *Environmental Law: Perspectives from Human Ecology*, 6 *ENV'TL LAW* 289 (1976).

5. See generally W. LEISS, *THE DOMINATION OF NATURE* (1972); Lowenthal, *Introduction* in G. MARSH, *MAN AND NATURE* xxiii-xxvii (1965 ed.) (1st ed. 1864).

6. A. WATTS, *THE BOOK ON THE TABOO AGAINST KNOWING WHO YOU ARE* 7-9 (1966); Metzger, *supra* note 4, at 794-97; White, *The Historical Roots of Our Ecological Crisis*, 155 *SCIENCE* 1203 (1967).

7. See A. SILVER, *WHERE JUDAISM DIFFERED* 221-23 (1956); STONE, *supra* note 4, at 46-48.

traditional Western religion about merging human existence and consciousness into the Universe.<sup>8</sup>

For many years the discipline of ecology has explored the interrelationships of different forms of life. In recent years, the teachings have taken on the quality of warnings, for the interdependencies have reached points of harmful breakdown. Thus, we now know that pesticides and other chemicals travel persistently through our waterways and the food chain into our bodies.<sup>9</sup> We have learned that many species of birds and animals have become extinct because of the indirect effects of waste disposal, pollution, and the introduction of new land development projects and toxic chemicals into their habitats. The examples are legion and have been well-documented by leading ecologists.<sup>10</sup>

Since 1972, there has been growing concern in America, Japan and Europe that whales may become extinct. The 1972 United Nations Conference on the Human Environment in Stockholm adopted the whale as a symbol of the environmental crisis.<sup>11</sup> Those who slaughter whales for manufacturing purposes seem content to eliminate the species. Instead of adopting enforceable international management programs which would permit the rational use of whales,<sup>12</sup> the whaling industry continues its unrestrained killing of these creatures. In contrast to this self-defeating shortsightedness of the whaling industry is a movement to preserve the creatures, not because of their value to man, but because whales are awe-inspiring, intelligent, and friendly animals.<sup>13</sup> Some people have found their own fate—their own worth and self-respect—linked with the values humanity expresses about the fate, worth, and respect due whales.

While the public is increasingly aware of the unity of nature, lawyers and legal institutions have not come to that realization. This may be the result of legal training which is geared toward analyzing separate parts of a problem, rather than the whole. Lawyers think in terms of individual conflicts, cases and statutes,

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8. See generally D. HARDING, *RELIGIONS OF THE WORLD* (1966).

9. R. CARSON, *SILENT SPRING* (1962).

10. Comment, *Vanishing Wildlife and Federal Protective Efforts*, 1 *ECOLOGY L.Q.* 520, 528-32 (1971).

11. Jacobsen, *A Call to Environmental Order*, 28 *BULL. ATOM. SCIENTISTS* 21, 23 (1972).

12. Griffis, *The Conservation of Whales*, 5 *CORNELL INT. L.J.* 99, 100, 109 (1972) [hereinafter cited as Griffis].

13. See generally *MIND IN THE WATERS* (J. McIntyre ed. 1974); F. MOWAT, *A WHALE FOR THE KILLING* (1972); V. SCHEFFER, *THE YEAR OF THE WHALE* (1969).

rather than the overall setting in which these matters arise. This kind of narrow focus is even found in some of the recent attempts to reform legal procedures for coping with environmental problems. Rather than establish a coordinated system, we create separate agencies to deal with air pollution, water quality, and solid waste management. Decisionmakers sometimes realize that the solutions to problems in one area may create new problems in the others, but seldom require that the interconnections be coordinated.<sup>14</sup> Thus, air pollution authorities may demand the use of air pollution control equipment which creates a liquid effluent,<sup>15</sup> failing to take into consideration the controls' effect upon water pollution standards.

The same disjointed approach to the web of environmental ills exists in judicial proceedings. Undoubtedly, there are occasions when separate attacks on different facets of a complex environmental problem eventually resolve all the issues involved. But this occurs as much by chance as by design. A classic example of this piecemeal approach arose in a melange of proceedings involving a waste disposal site for liquid industrial wastes.<sup>16</sup> The site consisted of about eight large ponds, with a total surface area of approximately 60 acres. Seepage into ground water constituted a water pollution problem for state water authorities. Obnoxious odors affected a nearby residential subdivision, constituting the basis for an official abatement proceeding before the adjudicatory arm of the regional air pollution control district. The placement of another, new subdivision even closer to this site was handled by the city and county. Finally, the basic arrangement for disposal of the chemical wastes was a private matter between the site operator and its customers. Ultimately, most of the problems

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14. *But see* Environmental Protection Act of Illinois, ILL. REV. STAT. ch. 111½, §§1001-1051 (1970).

15. *Cf.* M.A. Oberman, *New Responsibilities for Sanitary Landfill*, 8 WASTE AGE 16 (1977), which states: "[I]t is becoming increasingly apparent that the masses of liquid and hazardous wastes, as well as sludges which result from air and water pollution control systems, are going to have to be disposed of on the land in an environmentally acceptable manner."

16. *Air Pollution Control Officer of the Bay Area Air Pollution Control Dist. v. Industrial Tank, Inc.*, No. 510 (Hearing Board, Bay Area Air Pollution Control District, order for dismissal entered August 17, 1976); *Industrial Tank, Inc. v. Crocker Homes, Inc.*, No. 159004 (Super. Ct. of Contra Costa County, Cal., filed November 24, 1975); *Lawrence v. Industrial Tank, Inc.*, No. 147618 (Super. Ct. of Contra Costa County, Cal., filed November 12, 1974).

were alleviated, but this was no tribute to coordinated legal action. The implicit legal assumption is that either there are no interdependencies at all, or they are of minor importance.

There are signs of changes in the legal system's approach to environmental problem-solving. However, most changes have been limited to official oratory and more extensive gathering of information. In the oratory department, the outstanding example of change is Congress' prefatory statements in the National Environmental Policy Act of 1969 (NEPA):<sup>17</sup>

The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, . . . and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy . . . to use all practicable means and measures . . . in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony . . . .<sup>18</sup>

Even this statement seems to place man outside the "interrelations of all components of the natural environment." The "harmony" which is sought is a "productive" one, undoubtedly suggesting that man's interest in the productivity of the environment is at least as important as the "harmony" aspect, whatever that may be.

Regarding data collection, the creation of the "environmental impact statement" device by NEPA is definitely a strong step in the right direction.<sup>19</sup> Before government agencies take any action that may have a significant environmental impact, they must investigate, make public, and "consider" extensive information about the network of environmental consequences of the proposed project. The difficulty, of course, is that Congress and the courts have been reluctant to do much more than exhort individual decisionmakers to take this type of information into account.<sup>20</sup> As

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17. National Environmental Policy Act of 1969, 42 U.S.C. §4321 (1970).

18. *Id.* §4331(a).

19. *Id.* §4332(2)(c).

20. "Perhaps the greatest importance of NEPA is to require the Atomic Energy Commission and other agencies to *consider* environmental issues just as they consider other matters within their mandates."

Calvert Cliffs Coordinating Committee v. A.E.C., 449 F.2d 1109, 1131 (D.C. Cir. 1971) (emphasis in original). *Accord*, Society for California Archaeology v. County of Butte, 65 Cal. App. 3d 832, 135 Cal. Rptr. 679, 683 (1977).

yet, substantive requirements for decisions under NEPA have been minimal.<sup>21</sup>

Since the development of increased environmental awareness and more sophisticated regulation is an evolutionary process, it may make sense to go slowly for the present. First, decisionmakers must begin to think more comprehensively about the consequences of their conduct. Later, it will be necessary to devise means for requiring the decisions themselves to be consistent with the interconnections discovered. The difficulty of that task must not be underestimated.<sup>22</sup>

The type of analysis required by NEPA, and exemplified in some of the judicial decisions, is an acknowledgement of the impact that people have on the environment, which, in turn, affects people. This is a recognition in law of the unity of nature, including humanity. This type of thinking must be incorporated further into our legal institutions. For example, the substantive requirements of attention to environmental impact statements must be strengthened.<sup>23</sup> Regulatory agencies must be established with a broader, more integrated scope of jurisdiction.<sup>24</sup> Lawyers, judges,

21. Yarrington, *Judicial Review of Substantive Agency Decisions*, 19 S.D. L. REV. 279 (1974) [hereinafter cited as Yarrington].

22. See the court's comments in *Calvert Cliffs Coordinating Committee v. A.E.C.*, 449 F.2d 1109 (D.C. Cir. 1971):

But some delay is inherent whenever the NEPA consideration is conducted . . . . It is far more consistent with the purposes of the Act to delay operation at a stage where real environmental protection may come about than at a stage where corrective action may be so costly as to be impossible.

*Id.* at 1128.

It is interesting to note that there has been some public backlash against NEPA's environmental impact statements and similar state statutory requirements. See, e.g., California Environmental Quality Act, CAL. PUB. RES. CODE §21080.5 (West) (eff. Jan. 1, 1976); 1975 Cal. Stats. ch. 1187, §1 [1975 Cal. Adv. Legis. Serv., No. 7 at 644-47]. "This amendment to CEQA creates an alternative to the [Environmental Impact Report] requirement for qualified state agencies have important environmental protection responsibilities." *Wildlife Alive v. Chickering*, 18 Cal.3d 190, 196, 553 P.2d 537, 539, 132 Cal. Rptr. 377, 379 (1976). Background explanation for this amendment, based upon forestry industry protests, may be found at COUNCIL ON ENVIRONMENTAL QUALITY, SEVENTH ANNUAL REPORT 136 (1976). This backlash can be interpreted as an expression of frustration at being forced to take the time to take a broader view—this is just not the American way! Fortunately most judicial decisions under NEPA have withstood this frustration in order to require very comprehensive investigations to be made under the terms of these statutes.

23. Some recent revisions of the California Environmental Quality Act appear to be attempts to accomplish this. See CAL. PUB. RES. CODE §§21002, 21002.1.

24. See Environmental Protection Act of Illinois, ILL. REV. STAT. ch. 111½, §§1001-1051 (1970).



and officials charged with administration of environmental legislation must be induced to take a broader view, to see the interconnections as clearly as possible. "The basic environmental rule is to look ahead."<sup>25</sup>

It is sometimes said that lawyers are trained in the art of conflict prevention and resolution. The present difficulty with training lawyers to work on environmental problems is that conflict management is not the whole task. An analogy can be made to the field of military warfare: given the incredible destructiveness of nuclear weapons, military leaders must now realize that more important than winning any given confrontation is the need to preserve the battlefield itself. The paradox, which hopefully the superpowers now recognize, is that nuclear victory is probably a defeat for all.

Similarly, lawyers who are intent upon merely winning one environmental struggle after another fail to realize that the limits of their vision may ultimately turn their victories into defeats. If lawyers successfully keep commercial whaling going at its present pace, soon there will be no whaling interests for them to represent, because the whales will be extinct. The same concept is applicable to lawyers for air pollution control agencies in urban areas who succeed in imposing controls without regard to water pollution effects, land use patterns, or solid waste management practices. They too may find out that the industrial activities they have sought to bring under control have become intolerable for other reasons. If the world is "a harmonious system of contained conflict," it is important for lawyers to begin to look at the system itself, and not just at the individual conflicts.<sup>26</sup> Otherwise, they will help to bring about the self-destruction of civilized human life.<sup>27</sup>

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25. J. QUARLES, *CLEANING UP AMERICA* 240 (1976).

26. A. WATTS, *THE BOOK ON THE TABOO AGAINST KNOWING WHO YOU ARE* 78 (1966).

27. In a discussion of international legal order, one commentator uses the phrase "limit situations" to describe those times at which "the pliability of human arrangements breaks down—at which 'realities' exercise a veto over normative conventions." One type of "limit situation," the "natural necessity" set, "arises from challenges that must be met to permit the continuation of organized social life on this planet. These are the twin challenges of armed conflicts with modern weapons technology and of planetary ecological collapse. The imperative of deflecting existing ecological trends away from looming catastrophe, forecast by a nearly unanimous scientific community, must therefore be accepted

These habitual limitations of human perspectives, particularly lawyers' perspectives, suggest that we are more comfortable with aggression than we are with harmony. We easily can become immersed in a particular struggle, perhaps because it is "particular" or separable, and thus conceptually easier to grasp. On the other hand, when we think about harmony and the interconnectedness of all things, it is easy to feel overwhelmed by the unlimited and unstructured dimensions of the concepts.

The answer is that we must start looking at the total picture. As adversaries and advocates, we must try to understand the field on which we are fighting. As legislators and judges, we must also expand our decisions to encompass many more of the connections among different human activities and their effects on nature. As teachers and students of environmental law, we must explore in depth the ways in which we can redesign our thinking and our tools to implement a far broader, more respectful approach to humanity's relationship to the natural environment.

### III. FINITUDE

Another of our mistaken premises is the notion that there are no limits to the resources available for our material wealth and comfort. It is likely that this way of thinking developed along with the view that we can treat the environment as though it is made up of separate parts. Once the concept of unity is accepted, and perhaps even if it is not, we are forced to focus upon the reality of finitude. There are limits to the resources of this planet.

The list of dwindling resources includes critical minerals, energy fuels, timber, foodstuffs, and clean air and water.<sup>28</sup> Americans traditionally have regarded these resources as infinite. Legal concepts which developed in response to the desire to industrialize and settle this country strengthened the notion that America's resources are unlimited.<sup>29</sup> However, many people have now become aware of nature's limits. As disciplines other than law begin

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as establishing a limit situation of a new kind." Gottlieb, *The Nature of International Law: Toward a Second Concept of Law*, in Black & Falk, *supra* note 4, at 331, 337-39.

28. J. QUARLES, *CLEANING UP AMERICA: AN INSIDER'S VIEW OF THE ENVIRONMENTAL PROTECTION AGENCY* 237 (1976).

29. See generally Horwitz, *The Transformation in the Conception of Property in American Law, 1780-1860*, 40 U. CHI. L. REV. 248 (1973).

to perceive these limits, we must ask what response the law will make to this new grasp of reality.

The most significant modern expression of Earth's finitude is the study entitled *The Limits to Growth*, which appeared in 1972 under the auspices of the Club of Rome, a private organization including international industrialists, scientists, and economists.<sup>30</sup> This book "did the most to shape the current debate on ecological limits," and the debate it has engendered is "enormous."<sup>31</sup> With the use of sophisticated computer modeling techniques, the study team, centered at the Massachusetts Institute of Technology, developed a "world model" of the incredibly complex interactions of five main aspects of the present world situation: pollution, food production, industrialization, population, and consumption of nonrenewable natural resources.<sup>32</sup> In essence, the study offered a persuasive and sobering admonition that the people of the world cannot act in these five realms as though there are no "limits to growth."<sup>33</sup>

There are a few possibilities regarding the outcome of the limits debate. One is that the debate will not be resolved in time to head off catastrophic breakdown in the functioning of the present world pattern of resources use. Another is that the debate will go on but no such problems will arise; that is, the *Limits to Growth*

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30. D. H. MEADOWS, D. L. MEADOWS, J. RANDERS, & W. BEHRENS III, *THE LIMITS TO GROWTH: A REPORT OF THE CLUB OF ROME'S PROJECT ON THE PREDICAMENT OF MANKIND* (2d ed. 1974) [hereinafter cited as *LIMITS TO GROWTH*].

31. OPHULS, *supra* note 2, at 17.

32. *LIMITS TO GROWTH*, *supra* note 30, at 25.

33. *Id.* at 169-70. The *LIMITS TO GROWTH* study is controversial. Whether its analytical methods, data, and computer techniques are valid is beyond my capacity to judge, and the study apparently remains so complex an area of judgment that it continues to baffle experts in various disciplines. COUNCIL ON ENVIRONMENTAL QUALITY, *THIRD ANNUAL REPORT* 52-53 (1972); *MODELS OF DOOM: A CRITIQUE OF THE LIMITS TO GROWTH* (H. Cole *et al.*, eds. 1973); *ON GROWTH: THE CRISIS OF EXPLODING POPULATION AND RESOURCE DEPLETION* (W. Oltmans ed. 1974); *ON GROWTH TWO* (W. Oltmans ed. 1975); Rabinowitch, *Needed: A Political Program for the Technological Age*, 28 *BULL. ATOM. SCIENTISTS* 11, 14-15 (1972); *Visit to a Small Planet*, *NEWSWEEK*, November 3, 1975, at 76; *Courting a Golden Age — Or Disaster*, *San Francisco Chronicle*, Nov. 4, 1975, at 8.

It is worth noting, however, that the *LIMITS TO GROWTH* study explicitly chose conservative assumptions in its analysis, thus diminishing the possible objections to it. Furthermore, a later study employing somewhat different approaches has reached similar conclusions. M. MESAROVIC & E. PESTEL, *MANKIND AT THE TURNING POINT: THE SECOND REPORT TO THE CLUB OF ROME* (1974). See also *RESHAPING THE INTERNATIONAL ORDER: A REPORT TO THE CLUB OF ROME* (J. Tinbergen, coordinator 1976).

advocates will have been proven wrong. This possibility seems highly unlikely, in view of shortages the world is already experiencing in such things as food supplies, energy resources, critical metals and clean water. One commentator has observed that the growth debate is no longer even a question of whether there *are* limits, but rather of *when* they will be reached.<sup>34</sup> A third possibility is that the debate will soon be resolved, and a consensus among the world's "experts" will emerge. If that consensus is one that expresses a recognition of finitude of our planetary resources, then new legal measures will have to be devised to express the new thinking.

This new way of thinking has already begun, even though the debate is not over and perhaps never can be. The immediate question is whether changes in the legal system can and should begin *now* in order to come into harmony with the increasing evidence of natural limits. Our present situation is analogous to a request for a preliminary injunction in litigation in which the plaintiff is alleging that the defendant's continued course of conduct will destroy some irreplaceable natural resource. The questions asked in such a hearing relate to irreparable harm to the plaintiff if relief is not granted, and to whether the plaintiff's position is likely to succeed on the merits after the case is fully heard.<sup>35</sup>

The "case" now has to do with the overall integrity, or dignity, of the natural environment. It is necessary to reexamine many of our legal concepts and institutions because there may be irreparable harm to all of us on Earth if this "plaintiff's" position is valid. It may be noted, of course, that almost all of us are both plaintiffs and defendants in this case, for it is our own modern lifestyles and definitions of our "needs" which create the misuse of our planet which imperils our own well-being.<sup>36</sup>

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34. OPHULS, *supra* note 2, at 2.

35. See, e.g., *Congress of Railway Unions v. Hodgson*, 326 F. Supp. 68, 76-77 (D.D.C. 1971); *Environmental Defense Fund v. Corps of Engineers*, 324 F. Supp. 878, 880-81 (D.D.C. 1971). See also Comment, *Imminent Irreparable Injury: A Need for Reform*, 45 So. CAL. L. REV. 1025 (1972).

36. The impossibility of taking a strict adversary view of the interested parties when looking broadly at environmental ills is illustrated by the rejection of the attempted class action in *Diamond v. General Motors Corp.*, 20 Cal. App.3d 374, 97 Cal. Rptr. 639 (1971).

Again it appears that lawyers, whose business it is to deal with specific areas of discord rather than with the search for overall harmony, have ignored the *Limits to Growth* debate.<sup>37</sup> Obviously few lawyers would have the necessary qualifications to challenge the technical aspects of the debate. Nevertheless, lawyers and legal scholars, especially those concerned about the quality and survival of the environment, should begin to address ways in which the legal system will have to change *if* and *when* the *Limits to Growth* advocates win their point, assuming that they do so prior to the time that their most dire predictions come true. The legal system must cease to be employed to promote the philosophy that *more* is always *better*.<sup>38</sup> Rather it must begin to recognize that this planet is finite and that we must act in accordance with that reality.<sup>39</sup> Since we do not know what the limits are, we had best structure our institutions and activities in a more conservative fashion—using the word “conservative” in its primary meaning—which will preserve our options while more evidence is gathered. To the extent that legal institutions do provide some measures for dealing with the problems created by new activities, they usually place the burden of proof upon the naysayer, the one who can point to and “prove” the resulting harm.<sup>40</sup>

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37. *But see* Ruff, Book Review, 2 *ECOLOGY L.Q.* 879 (1972) (review of *THE LIMITS TO GROWTH*).

38. “We have learned that *more* is not necessarily *better*, that even our great Nation has its recognized limits, and that we can neither answer all questions nor solve all problems.” Inaugural Address of President Jimmy Carter, 13 *WEEKLY COMP. OF PRES. DOC.* 87, 88 (Jan. 24, 1977).

The pervasiveness of the traditional thinking is dramatically illustrated in Garrett Hardin’s classic essay, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968). The legal system’s facilitation of this mentality is noted at W. BAXTER, *PEOPLE OF PENGUINS: THE CASE FOR OPTIMAL POLLUTION* 34 (1974). In *Train v. Natural Resources Defense Council*, 421 U.S. 60, 93-94 n.28 (1975), the Court acknowledged that “a problem would arise when the grant of a variance [from Clean Air Act requirements in a state implementation plan] to one source would not affect national [ambient air quality] standards, but the simultaneous or subsequent grant of similar variances to similar sources could result in the plan’s failure to insure the attainment and maintenance of the standards.” Faced with the fact that there would not be room for more air pollutants in this situation, the Court merely deferred to the Environmental Protection Agency’s claim that it “does not view the problem as insurmountable.”

39. *See* E. SCHUMACHER, *SMALL IS BEAUTIFUL, ECONOMICS AS IF PEOPLE MATTERED* 23-24 (1973).

40. *See* text accompanying notes 74-84, *infra*.

To cite one example, the Chairman of the Federal Consumer Product Safety Commission recently was interviewed with regard to charges, based upon laboratory testing of animals, that certain flame-retardant chemicals used in children's pajamas are carcinogenic and therefore should be banned.<sup>41</sup> The Chairman replied that he had no authority to "intervene in the normal workings of the market place" without much more proof of danger to children. How much proof should be required from the objectors is a difficult question, but what is more difficult to contend with is the *unstated* premise that the manufacturer has a right to introduce any product he wishes into the marketplace and that the force of law cannot be brought to bear on the situation until after the product is marketed.

Surely the modern, Nader-age device of the product recall is a step in the direction of consumer and environmental protection. One does wonder, however, whether some alteration in the initial assumption about one's unquestioned right to engage in a new manufacturing or building activity might be a much more profound step toward protecting nature, including its human components.

It is important to remember that to some extent legal institutions express values formed elsewhere in society, and to some extent they form them. It is thus a matter deserving further study to identify various, specific areas in which the more-is-better philosophy pervades the law. I suspect that profound examples of such thinking would be found in many areas, including (1) local land use policies and development procedures; (2) tax policies, including personal exemptions, investment credit, and mineral depletion allowance provisions; (3) utility rate structures, with the customary provisions for lower rates for increased usage; and (4) product safety approval schemes, such as those covering foods, drugs, pesticides, and toxic chemicals. These four areas come to mind because they seem to be the first areas in which

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41. NBC "Today" Show, Jan. 18, 1977. For further information concerning the Tris controversy, see Petition of the Environmental Defense Fund to Ban the Sale of Tris-Treated Wearing Apparel, (U.S. Consumer Product Safety Commission, filed February 8, 1977); Petition of the Environmental Defense Fund for the Issuance of a Consumer Product Safety Rule, No. HP 76-10 (U.S. Consumer Product Safety Commission, filed March 24, 1976); 5 *PROD. SAFETY & LIAB. REP.* (BNA) 221 (Mar. 25, 1977).

changes in the fundamental premises are beginning to take place.

One final point must be mentioned. The capacity of technology ultimately to overcome earthly finitude must be considered. Some persons see our salvation in the development of greater efficiency in resource use and substitutes for materials upon which we have previously depended. There are even those who carry this approach to the point of confidence that technological genius will devise means for carrying humanity to other planets when Earth is used up.

Obviously there is a great, almost miraculous capacity of humans to develop their tools to achieve their objectives.<sup>42</sup> But if the *Limits to Growth* advocates are correct, then technology ultimately is not the solution.<sup>43</sup> There are many reasons for this, probably the greatest of which is the inescapable problem of human ignorance, to which I will turn next.

#### IV. THE LIMITS OF KNOWLEDGE

We humans do not know what power has put us on Earth, nor do we know what, if anything, life on Earth is "for." In this existential sense, we cannot answer the question of what we "should" do with this experience of life. Similarly, there is no way of knowing what ultimately is the "best" approach we should take to use of the planet.

[M]an, both through his trivial limitations and through those profounder ones that stem from his intrinsic nature, cannot know it all because of his scale in space and time and because he cannot step out of himself, cannot know of the water in which he swims.<sup>44</sup>

Not only is our knowledge limited in this ultimate way, but we are also becoming aware that we are tremendously limited in our knowledge of the physical consequences of what we do with the planet. "Today we are using the biosphere, the living space, as

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42. See D. POTTER, *PEOPLE OF PLENTY: ECONOMIC ABUNDANCE AND THE AMERICAN CHARACTER*, 161 (1954), which states that "[a]bundance, as a horse-breeder might say, is by technology out of environment."

43. *LIMITS TO GROWTH*, *supra* note 30, at 129-55; OPHULS, *supra* note 2, at 116-27.

44. Sir D. H. Wilkinson, *The Quarks and Captain Ahab or: The Universe as Artifact*, (unpublished lecture before Dept of Physics, Stanford University, January, 1977).

an experimental laboratory."<sup>45</sup>

The evidence of our ignorance is staggering. We manufacture chemicals which affect our health and well-being in unexpected, delayed, devastating ways, even though our original intentions in producing them were laudable. Speak of kepone, thalidomide, DDT, asbestos, and the point is made. Consider the increasing evidence that many forms of cancer are the result of human exposure to what are essentially new products and wastes of man, created to serve apparent needs.<sup>46</sup> The previously mentioned example of pajamas treated with a possibly carcinogenic flame-retardant chemical can be added to the list.

If all life on Earth is unified and interdependent, and if the planet's resources ultimately are limited, then it also should be apparent by now that the system of life is so complex that anything we make or do affecting our physical surroundings not only *may* have unknown effects, but probably *will* have unknown effects, many of which will be adverse. "Generally, when man has tampered with one element of nature's balance, unforeseen and detrimental results have occurred."<sup>47</sup> There is no such thing as a free lunch when we tamper with the ecological unity of which we are a part.<sup>48</sup>

There is a further reason why our knowledge is limited. That is because the effects of what we do are very frequently delayed in time. Only recently, for example, has it been discovered that use of X-rays for shrinking tonsils in the 1940's created a very high likelihood of thyroid cancer. This evidence only began to appear in the patients many years after the treatment, which was apparently successful at the time for its original purpose.<sup>49</sup> *The Limits to Growth* study has also acknowledged this time gap problem with respect to cumulative pollution effects.<sup>50</sup>

45. Lord Ritchie-Calder, *Mortgaging the Old Homestead*, 48 FOREIGN AFFAIRS 207, 208 (1970).

46. COUNCIL ON ENVIRONMENTAL QUALITY, SIXTH ANNUAL REPORT 17-26 (1975).

47. Griffis, *supra* note 12, at 101. Also consider remarks found in STONE, *supra* note 4, at 32, which read: "All burdens of proof should reflect common experience; our experience in environmental matters has been a continual discovery that our acts have caused more long-range damage than we were able to appreciate at the outset."

48. B. COMMONER, *THE CLOSING CIRCLE* 41 (1971).

49. See Norwood, *X-Rays: A Troubled Picture*, NEW TIMES, March 4, 1977, at 54.

50. LIMITS TO GROWTH, *supra* note 30, at 81-84.



There is undoubtedly a tremendous amount we have already learned about this world, the solar system and beyond, and many more frontiers of knowledge surely will be broken hereafter. However, it does not appear that we will ever have the whole system understood in all its operational details,<sup>51</sup> not to mention its ultimate significance. The paradox is that we cannot even know what the limits of knowing are, for in order to do that we would have to understand the totality, which we cannot.

The question for lawyers is whether the inescapable limits of human ignorance should have explicit bearing on human decisionmaking about the natural environment. Can we create institutions for preserving and respecting a system which we do not and cannot fully understand?

Three approaches are available to aid in the resolution of this question. First, we may continue to ignore the unity, finitude, and enigma of life. Second, we can develop much more sophisticated tools for evaluating the effects of our use of the planet in terms of the concept of environmental risk. As a third approach, we could place a much higher value upon the ecological system, either as it was before humanity started altering it or at least as it is now in most respects.

Fears about the results of the first approach already have been made clear.<sup>52</sup> The other two approaches, or a combination of them, may still offer the opportunity for lawyers to make a beneficial contribution in the quest for natural dignity.

The effort to develop more sophisticated tools for evaluating the effects of use of the planet is already underway. The creation of the environmental impact statement by NEPA was an attempt to provide a much more complete informational base.<sup>53</sup> The com-

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51. See E. LASZLO, *A STRATEGY FOR THE FUTURE: THE SYSTEMS APPROACH TO WORLD ORDER* 80 (1974), which states:

Our capacity to predict just what action taken today depresses or enhances the economic and social options of people living one hundred years hence is, despite the computer projections of Forrester, Meadows, *et al.*, practically negligible. We cannot foretell the technological developments over the next one hundred years, nor how the present data gaps will be filled in.

52. See text accompanying notes 25-27 *supra*.

53. See *Scientists' Inst. for Pub. Information, Inc. v. A.E.C.*, 481 F.2d 1079 (D.C. Cir. 1973); *Natural Resources Defense Council v. Morton*, 458 F.2d 827 (D.C. Cir. 1972). In *Scientists' Inst. for Pub. Information*, the court stated: "[O]ne of the functions of an impact statement is to point up the uncertainties where they exist."

puter studies in the *Limits to Growth* debate also permit more understanding of attenuated and time-delayed environmental consequences. There is, however, very little that is new in the approaches that lawyers and judges take to evaluating environmental implications of new activities and products.

Most environmental litigation sooner or later results in a classic "balancing act" determination. The court finds itself doing the traditional job of nuisance law: balancing the detriment to one party from the activity in question against the benefit to the other party.<sup>54</sup> The modern pollution case, especially one in which injunctive relief is at issue, most vividly demonstrates this.<sup>55</sup> At best some clear evidence of the broader community interests at stake also is weighed in the balance.

This same type of balancing process is what the courts have interpreted NEPA to require in the decisionmaking of government agencies.<sup>56</sup> Some commentators have urged "substantive" judicial review under NEPA so that the courts will make these cost-benefit determinations or at least set the limits of tolerable determinations by the agencies.<sup>57</sup>

Assuming that all possible information about environmental consequences were available, it would still be very difficult to make these balancing decisions. The difficulty lies primarily in the fact that the comparisons to be made include factors which are not susceptible to quantification and which are valued on different levels of the human experience. These factors include jobs, clean air, preservation of animal species, and new labor-saving products.<sup>58</sup> Beyond this, however, the magnitude of the task is compounded by the limits of knowledge, the fact that we can never be sure that we have all the pertinent information.

The concept of risk is one with which lawyers are familiar, primarily from the field of torts. The concept assumes imperfect knowledge about future consequences and therefore addresses

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54. W. PROSSER, *THE LAW OF TORTS* §87, at 580-81 (4th ed. 1971).

55. See, e.g., *Boomer v. Atlantic Cement Company*, 26 N.Y.2d 219, 257 N.E.2d 870 (1970).

56. F. ANDERSON, *NEPA IN THE COURTS* 247-58 (1973).

57. See Yarrington, *supra* note 21.

58. Compare J. KRIER, 2 *ENVIRONMENTAL LAW AND POLICY* 73 (1971) with W. BAXTER, *supra* note 38, at 12, 106.

results in terms of probabilities.<sup>59</sup> What is beginning to develop in environmental law is the increased use of environmental risk as a touchstone for making the types of difficult decisions discussed here. To date this approach is manifest mainly as part of the balancing acts, where the court or administrative agency looks at the probabilities and magnitude of the harms and benefits at issue and reaches some sort of policy preference.<sup>60</sup> Only recently has there been clear recognition of the fact that this is being done amidst imperfect knowledge. In the *Reserve Mining* litigation, and in the litigation over the Environmental Protection Agency's regulations under the Clean Air Act for limiting the lead content of gasoline, courts have focused upon the need to evaluate risks and benefits despite the impossibility of having at hand all the information desirable about the possible dangers.<sup>61</sup> In each instance the courts were focusing upon risks, the degree of likelihood that certain adverse events would come to pass.<sup>62</sup>

What is instructive about these recent decisions is that they are explicit about the use of risk analysis, and that they acknowledge to some extent that the court and the parties to the cases are operating in the dark.<sup>63</sup> This recognition does not necessarily make the decisions any easier, but it does make them more realistic and honest. Once the court or any other decisionmaker admits that there are imponderable elements involved, it would seem less likely that a reckless decision will be made. Risks will still be taken, but hopefully fewer catastrophic surprises will be encountered later. If the International Whaling Commission, for

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59. See generally R. KEETON, *LEGAL CAUSE IN THE LAW OF TORTS*, 49-52, 87-94 (1963). A good introduction to the growing interest in "technology assessment" may be found in Speth, *The Federal Role in Technology Assessment and Control*, in *FEDERAL ENVIRONMENTAL LAW* 420 (E. Dolgin & T. Guilbert eds. 1974).

60. See, e.g., CAL. HEALTH & SAFETY CODE §§42352, 42354 (West Supp. 1977).

61. *Ethyl Corp. v. E.P.A.*, 541 F.2d 1 (D.C. Cir. 1976), cert. denied, 426 U.S. 941 (1976); *Reserve Mining Co. v. E.P.A.*, 514 F.2d 492 (8th Cir. 1975). Although *Reserve* involved judicial use of risk analysis as a basis for direct injunctive relief and *Ethyl* involved judicial review of administrative use of it, analytically the cases are quite similar.

62. "Risk is a measure of the probability and severity of adverse effects." W. LAWRENCE, *OF ACCEPTABLE RISK: SCIENCE AND DETERMINATION OF SAFETY* 94 (1976).

63. See *Ethyl Corp. v. E.P.A.*, 541 F.2d at 6, 12-13, 17-20, 24-25, 28, 44; *Reserve Mining Co. v. E.P.A.*, 514 F.2d at 519-20, 528-29. See generally Comment, *Projected Environmental Harm: Judicial Acceptance of a Concept of Uncertain Risk*, 53 J. URB. L. 497 (1976).

example, were to admit that there are serious gaps in human knowledge about the life habits and breeding patterns of whales, then it could be acknowledged that even the quota systems and new management program for "harvesting" whales may result in their extinction.<sup>64</sup> Once the risk is acknowledged and the uncertainty admitted, the decision to kill them or not kill them becomes more informed and realistic. If the policy judgment to run this risk is made, at least it is done so more candidly and, hopefully, it will be subject to more informed public scrutiny.

A graphic example of the attempt to probe the limits of human predictive capacity is the recent Dow Chemical Company proposal to build the first of a thirteen factory petrochemical complex in the Sacramento River Delta area near San Francisco, California.<sup>65</sup> A major issue which developed over this proposal was the likely effect of emissions from the first plant on air quality in the vicinity, as measured in terms of the pertinent federal ambient air quality standards under the Clean Air Act. Although the hearings on this issue were aborted by Dow's decision to suspend the entire proposal, a tremendous quantity of evidence of a highly technical character had already been presented on the air quality issue. The incredible number of variables involved in the predictive calculations, as well as the inadequacy of the historical data base, made it quite evident that, despite all the technical expertise being brought to bear, there was some irreducible element of guesswork involved. Nonetheless, a decision would have had to be reached had the proposal gone forward. Such a decision would have had to explicitly acknowledge that to some extent it was based upon limited knowledge and thus amounted to risk evaluation.

Candid acknowledgment of reliance upon risk is, in one sense, very familiar to lawyers. In another sense, however, it is anathema to them, for it is the habit of lawyers to speak of something as "proven" even though the tests of proof are based upon less than absolute certainty, such as "proven beyond a reasonable

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64. See Wint, *Can Quotas Save the Whales?*, 60 SIERRA CLUB BULL., No. 7, August-September 1976, at 28.

65. See *In re* Application of the Dow Chemical Company for a Permit to Construct, No. 567 (Hearing Board, Bay Area Air Pollution Control District, order granting withdrawal of appeals entered February 3, 1977).

doubt," "proven by clear and convincing evidence," "proven by a preponderance of the evidence," "proven to be more probable than not." The reality which lawyers often mask with a well-entrenched fiction is that we do rely upon probabilities, relative degrees of uncertainty, and evaluations of risk in much of the work we do.<sup>66</sup> To be explicit about this in environmental law would be a valuable step toward higher awareness of the ways in which human activity endangers the natural "spaceship" in which we find ourselves.<sup>67</sup>

Although there is some movement in this direction,<sup>68</sup> more judicial and scholarly examination is needed of the ways in which legal evaluation of environmental risks is conducted. We probably will not be able to get away from the value-laden policy judgments which are represented by the balancing acts, but we can make them more honest and prudent by acknowledging the limits of knowledge within which we are working.

The third approach to the inescapable limits of knowledge is to place a much higher value upon the status quo, or even the "status quo ante" to the extent that it can be re-created. Perhaps it would have been better to leave many things as they were, respecting the status quo of nature rather than disregarding it as we advanced down the road of material progress. The common dogma of past decades is characterized by the often-quoted statement that "without smoke, Pittsburgh would have remained a very pretty *village*."<sup>69</sup>

The new thinking is that economic and technological progress can proceed without the tremendous degree of waste, pollution, and unrecycled use of resources which has historically characterized industrial growth. There is no need to determine whether America could have reached its present state of prosperity without pollution and waste, other than for the value such a retrospec-

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66. This point is clearly acknowledged in *Ethyl Corp. v. E.P.A.*, 541 F.2d at 17-20.

67. See Hardin, *The Earth is a Spaceship*, *EXPLORING NEW ETHICS FOR SURVIVAL* 16 (1972).

68. See notes 63 *supra* and 75 *infra*. See also Gelpe & Tarlock, *The Uses of Scientific Information in Environmental Decisionmaking*, 48 *SO. CAL. L. REV.* 371 (1974); Kantrowitz, *The Science Court Experiment*, 13 *TRIAL*, No. 3, March 1977, at 48.

69. *Versailles Borough v. McKeesport Coal & Coke Co.*, 83 *PITT. LEG. J.* 379 (Ct. of C. P. of Allegheny County, Pa., Musmanno, J.). *But see* *Waschak v. Moffat*, 379 Pa. 441, 452-53, 464-65, 109 A.2d 310, 316, 322 (1954) (Musmanno, J., dissenting).

tive assessment might have for underdeveloped countries desiring to grow economically without duplicating our environmental mistakes. What is immediately important is to determine what policies we should pursue now. One possible approach which the legal system can begin to express more readily is the idea that the existing balances of nature are presumptively better than what they might become through the effects of unrestricted human progress.

There is already some recognition among legal thinkers that the status quo of nature, even in its present state of partial despoliation, is worthy of respect as a matter of operating legal principle. Professor Christopher Stone, in his famous essay on the issue of standing for natural objects, at one point suggests that the measure of damages for invasion of the rights of natural objects could be "the cost of making the environment whole."<sup>70</sup> Even though this amounts to asking for a "freeze" on present environmental quality, Stone finds this "not inconceivable . . . as a general goal, especially considering that, even by the most immediately discernible homocentric interests, in so many areas we ought to be cleaning up and not merely preserving the environmental status quo."<sup>71</sup> Relying upon Stone's article in his dissent in *Sierra Club v. Morton*,<sup>72</sup> Justice Douglas seems to be saying that the best spokesman for the natural object is the person who relates to it in its most pristine condition. However, he does not make this explicit.<sup>73</sup>

The concept of natural balance should become the principal criterion in environmental decisionmaking. Whether it be based upon faith, or upon the increasing evidence of natural unity, earthly finitude, and human ignorance, it should become a guiding principle of environmental law that what naturally *is* should be respected and preserved in its present condition, or in its prior condition if re-creation of the prior condition is possible and beneficial. This concept rests upon the premise that nature is a unified system which has a balance or harmony built into it, with which

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70. STONE, *supra* note 4, at 29.

71. *Id.* at 30. See also SAX, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 565 (1970).

72. 405 U.S. 727 (1972).

73. *Id.* at 743-45, 749-52 (Douglas, J., dissenting).

we ought not to tamper except for demonstrably good reason.

This is not an argument for no growth whatsoever or for dooming millions of people to their present incomes, places of residence and lifestyle. This concept is suggested only as a rebuttable presumption or as a change in the rules of burden of proof. Using these familiar legal devices, we should restructure our basic approaches to tampering with nature.

It is difficult, without considerably more detailed investigation, to know precisely how this restructuring would operate. A few preliminary ideas are offered, however, some of which are based on recent judicial and legislative developments and scholarly writings. For example, Professor James E. Krier, in an early article on the nature of the burden of proof in environmental litigation, has suggested that the courts in both pollution cases and conservation cases should place the burden of proof upon the party which already has created or wishes to create some damaging disruption of the environment.<sup>74</sup>

The previously mentioned *Reserve Mining* and *Ethyl Corp. v. E.P.A.* decisions are cases in which the question of the burden of proof was at issue. The courts seemed to recognize that, when dealing with areas of environmental and medical uncertainty, it would be impossible for a plaintiff to prove definitely that specific dangers would come to pass. Focusing upon the statutory phrase "will endanger," the majority in *Ethyl* alleviated the burden of proof by acknowledging that the magnitude or severity of the risk must be correlated with the gravity of the harm in question. In that respect the traditional degree of probability of harm that burden of proof rules require may be somewhat lessened.<sup>75</sup>

This greater sophistication regarding burden of proof problems is consistent with the kind of risk analysis discussed above and is not unknown in the law of torts.<sup>76</sup> It is not, however, fully the

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74. Krier, *Environmental Litigation and the Burden of Proof*, in *LAW AND THE ENVIRONMENT* 105 (M. Baldwin & J. Page eds. 1970).

75. *Ethyl Corp. v. E.P.A.*, 541 F. 2d at 18, quoting *Reserve Mining Co. v. E.P.A.*, 514 F.2d at 519-20. See W. Thomas, *Judicial Treatment of Scientific Uncertainty in the Reserve Mining case* (Mar. 3, 1976) (paper presented at Fourth National Symposium on Statistics and the Environment, National Academy of Sciences).

76. See W. PROSSER, *supra* note 54, at 147: "As the gravity of the possible harm increases, the apparent likelihood of its occurrence need be correspondingly less." See also Henderson, Jr. & Pearson, *Law and Policy: The Use of Mathematical Probabilities in the Judicial Factfinding Process*, in *THE TORTS PROCESS* 94 (1975).

shifting of burden of proof called for by Krier. Under his view, it would be incumbent upon the user of allegedly jeopardized environmental resources to prove that its activities are not already polluting or destroying in a dangerous or unjustified manner.<sup>77</sup> In the area of conservation, Krier's suggestion similarly would call for the proponent of some new activity or product to meet the burden of proving its environmental safety and wisdom before going ahead with it.<sup>78</sup> At least one court has recognized that the movement for enforceable, substantive review of decisions under NEPA may call for realignment of burden of proof rules.<sup>79</sup>

Another recent development which can be seen as shifting the burden of proof rules, or raising a rebuttable presumption in favor of the status quo, is the new federal Toxic Substances Control Act.<sup>80</sup> For the first time Congressional policy seeks to require producers of new chemical products to prove before marketing them that they do not pose "unreasonable risk(s) of injury to health or the environment."<sup>81</sup> This reverses the premise previously discussed concerning the unlimited right of persons to make new uses of nature.<sup>82</sup>

A third area in which a concept of natural balance and the value of the status quo could come to play is that of basic real property rights. Professor Joseph Sax's views on possible expansion of the public trust doctrine are along these lines.<sup>83</sup> Similar suggestions have appeared elsewhere, calling for attention to the natural priorities of land use inherent in the characteristics of the land itself.<sup>84</sup>

Undoubtedly there are many other areas in which recognition of the limits of our knowledge can be transformed into more effec-

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77. Krier, *supra* note 74, at 116-19.

78. *Id.* at 111-15.

79. *Sierra Club v. Froehlke*, 359 F. Supp. 1289, 1334-35 (S.D. Tex. 1973). See also Yarrington, *supra* note 21, at 293-94.

80. Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976). See also *Environmental Defense Fund v. E.P.A.*, 9 E.R.C. 1575 (D.C. Cir. 1977). The burden of proof in a suspension hearing under the Federal Insecticide, Fungicide and Rodenticide Act is on the registrant of a poison covered by the Act.

81. *Id.* at §§2(a)(2), 4(a)(1)(A)(i).

82. See text accompanying note 41 *supra*.

83. Sax, *supra* note 71, at 557-65.

84. See Metzger, *supra* note 4, at 816-18; *id.* at 817 n.113, citing *Just v. Marinette County*, 56 Wis.2d 7, 201 N.W.2d 761 (1972).



tive legal approaches to decisionmaking aimed at maintenance of the inherent integrity of nature, unfathomable as it may be. In our evaluation of ecological risks, in the balancing of these risks against possible social, economic, or political benefits of proposed action, we can make respect of natural balance a central value. If we choose to tamper with nature, we can explain why we are doing it and can try to explain how much or little we know about the risks we choose to take.

### CONCLUSION

There are two levels upon which the above discussion may be of value. The first is the broad level of awareness, of understanding of the existential context in which we humans are part of nature and interact with other elements of it. If environmental lawyers and other persons involved in daily decisions about this interaction were to approach their work with greater awareness of the three facts of life emphasized here, we could work much more effectively toward harmony with nature, and thus toward greater dignity for the experience of life itself.<sup>85</sup>

At a more practical level, the concepts discussed offer a basis for further analysis of the premises underlying the legal system as it affects the environment. Out of such analysis can come restructuring of the tools and working concepts of environmental law. Some changes along these lines already are appearing, and many more are needed. As these changes are made, the legal system can help to define the path toward increasing preservation of the dignity of nature and of the dignity of humanity within it.

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85. Although most of the text here has been phrased in terms of what the legal system itself "says" or "does," it must be remembered that the actual subject at hand is people's attitudes and actions as expressed through legal tools. The importance of remembering the fictional character of descriptions of law as something independent of "the persons who speak to us through rules and of the persons to whom the rules are spoken," has been strongly emphasized in J. NOONAN, *PERSONS AND MASKS OF THE LAW* 28 (1976).